

What we claim is:

1. A method for notifying a server failure recovery comprising the steps of:

5 a first step of detecting a client having tried but failed to access a server due to a failure of at least one of the server and a network;
a second step of detecting that the failure has recovered; and
a third step of notifying the client having failed to access the server that the failure has recovered.

2. A server failure recovery notification device comprising:

10 a server failure detector for detecting a client having tried but failed to access a server due to a failure of at least one of the server and a network;

a server recovery detector for detecting that the failure has recovered; and

15 a server recovery notifier for notifying, when the failure has recovered, the client having failed to access the server that the failure has recovered.

3. The server failure recovery notification device as claimed in claim 2 wherein the device is mounted on a router.

20 4. The server failure recovery notification device as claimed in claim 2 wherein the device is mounted on a component except a router.

5. The server failure recovery notification device as claimed in claim 3 wherein the server failure detector detects a destination unreachable message indicating that a packet transmitted from the client in order
25 to try to access the server has not reached the server, and has an IP address table for specifying the client having failed to access by associating an IP address of the server included in the message with an IP address of the client.

30 6. The server failure recovery notification device as claimed in claim 3 wherein the server failure detector detects a destination IP address and a source IP address included in a packet addressed to the server

from the client transferred by the router, monitors an IP packet addressed to the client from the server transferred by the router, determines that a failure is being occurred in the server when the IP packet addressed to the client from the server is not detected even after a lapse of a predetermined time, and has an IP address table for specifying the client having failed to access by associating the destination IP address with the source IP address.

7. The server failure recovery notification device as claimed in claim 2 wherein the server recovery detector detects that the failure has recovered based on a signal from the server indicating that the failure has recovered.

8. The server failure recovery notification device as claimed in claim 7 wherein the server recovery detector has an SNMP manager function, and the SNMP manager function receives a trap message from the server having an SNMP agent function as the signal.

9. The server failure recovery notification device as claimed in claim 2 wherein the server recovery notifier has a client mail address table in which a client is preliminarily associated with a mail address, and transmits an e-mail addressed to the mail address indicating that the failure of the server has recovered based on the table.

10. The server failure recovery notification device as claimed in claim 2 wherein the server recovery notifier transmits, to the server, IP address information of the client having failed to access the server based on the IP address table when the failure of the server has recovered, thereby enabling the server to notify the client that the failure of the server itself has recovered.

11. The server failure recovery notification device as claimed in claim 10 wherein the server has a client mail address table indicating a client and a client mail address corresponding to the client, thereby enabling the server to notify the client having failed to access the server itself that the failure of the server itself has recovered based on

the client mail address table and the IP address information of the client.

12. The server failure recovery notification device as claimed in claim 5 or 6 wherein the server recovery notifier transmits IP address information of the client having failed to access the server to a network management apparatus based on the IP address table when the failure of the server has recovered, thereby enabling the network management apparatus to notify the client that the failure of the server has recovered.

13. The server failure recovery notification device as claimed in claim 12 wherein the network management apparatus has a client mail address table indicating a client and a mail address corresponding to the client, thereby enabling the network management apparatus to notify the client having failed to access the server that the failure of the server has recovered based on the client mail address table and the IP address information of the client.

14. The server failure recovery notification device as claimed in claim 2, further comprising a message transceiver for transmitting/receiving an inquiring message inquiring whether or not a failure recovery notification is required and a reply message to the inquiring message to/from the client having tried but failed to access the server when the failure has recovered,

the server recovery notifier giving the failure recovery notification to the client which requires the failure recovery notification.

15. The server failure recovery notification device as claimed in claim 2, further comprising a message transceiver for transmitting/receiving an inquiring message of a destination of a failure recovery notification and a reply message to the inquiring message to/from the client having tried but failed to access the server,

the server recovery notifier transmitting the failure recovery

notification of the destination.

16. The server failure recovery notification device as claimed in claim 14 or 15, further comprising a user protocol substitute terminator for terminating, instead of the server, a connection in which a failure has
5 occurred,

the message transceiver transmitting/receiving the messages through the terminator.

17. The server failure recovery notification device as claimed in claim 14 wherein the message transceiver registers an IP address of the
10 client which requires the failure recovery notification in an IP address table.